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Title: Examples of Aging and Failing Infrastructure

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# Examples of Aging and Failing Infrastructure

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# SM-39 Facility: Windows, No High Bay HVAC, and Concrete

Over 100 failing windows



Concrete dock aging; posts support dock canopy



# LANSCE

TA-53-0003, Sectors A, J, and B thru H, Air Handling Units  
(AHU)



# LANSCCE TA-53 Cooling Tower Pipe Distribution System



**Pump  
House**



**Pipe Runs the length of LINAC (left) and to distant  
accelerator Target Areas (right)**



# LANSCCE Proton Storage Ring, Air Handling Units (AHU), and Chillers

- Outdated (40+ years old) AHUs and 15 year-old Chillers



AHU



Chiller

# LANSCCE More aged AHUs





# LANSCCE Sector-E Chillers and Refrigerant Monitoring System

- 20+ year old chillers and support systems: outdated and nearing end of service life



**Chiller (Water-Cooled)**



**Refrigerant Monitor/Alarm System**

# LANSCCE Area C AHU and Return (Exhaust) Air Fan/Stack

- Outdated (40+ years old) AHU and Return (Exhaust) Fan



AHU



Return  
(Exhaust)  
Air Fan/  
Stack

# LANSCCE Various Heating Units

- Aged (40+ years old) heating units



# TA22 Storage Facilities

- Building 5 and 10 = temporary sheds with inadequate/nonexistent climate controls for WR materials/packaging

Building 5



Building 10

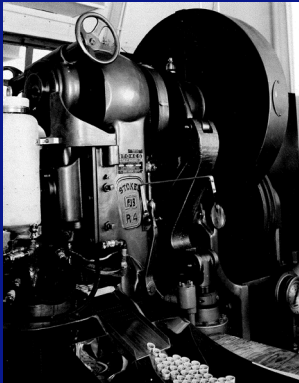




# TA22 Storage Facility – Current Inadequate Assets Building 5

## Warehousing

Originally Used  
for Production  
Processes



Container Kit  
Assembly for  
Products





# TA22 Storage Facility – Current Inadequate Assets Building 110

- Missing lights (flashlights required for entry), fire suppression, and HVAC



Skylight as only  
lighting and no  
insulation or  
electrical

Only fire  
suppression: Fire  
extinguisher by door



Certified WR  
Materials

Vermin



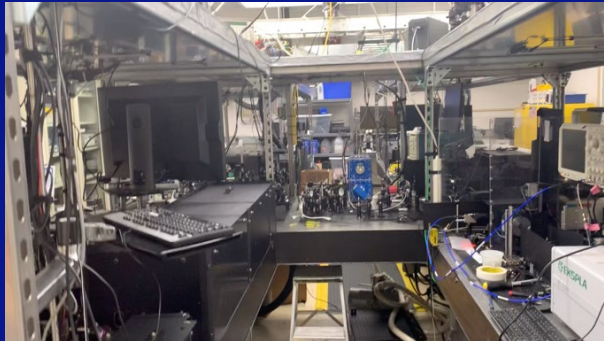
# Burning Grounds

- Infrastructure surpassed useful life: constant disrepair
- Underground piping suspect, lid of sand filter antiquated
- Moveable enclosure over flash pad in poor condition
- Many manual system checks required



# TA-40 Explosives and Lasers Facility

- Crowded laser labs for performing high explosives (HE) experiments not in the HE area
- Front door leads to office cubicles
- 3 to 4 concurrent experiments with different laser hazards makes safety a challenge



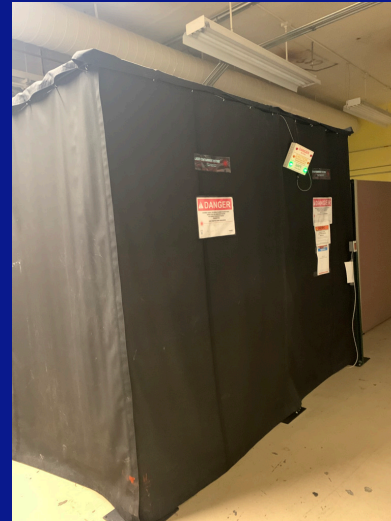


# TA-40 Explosives and Lasers Facility

Optics development co-located with firing led to damages: \$500k scope and \$200k laser when port breached in large shot



Experiments using Class 4 lasers on HE in 10'x12'x8' laser barrier tent (outside HE area)



# TA-40 Explosives and Lasers Facility: Drivers



Temporary laser barriers added to exterior entry to laser laboratory



Temporary shed added to get chillers to dump heat load outside



# TA-55 Zone 1 Fans

- Fans are 42 years old: beyond expected service life



# TA-55 Zone 2 Fans

- Over 42 years old and beyond expected service life



Zone 2 Bleed Off Fans



# TA-55 PF-4 Unit Substations 607 and 608

- Substations provide power to Motor Control Centers and facility power conductors



# TA-55 PF-4 Motor Control Center 611 and 612

- Provide power to selected loads in PF-4 and its support buildings
- Need revitalization



Motor Control  
Center 611  
(Left) and 612  
(Right)





# RANT Crane

- Loads payloads of TRU waste package transporters and transuranic packaged transporters
- Recent maintenance issues with crane
- Limited redundancy in system – concern of limiting waste shipments





# TA-11 K-Site Environmental Testing Facility Degradation



# Sigma: External



# Sigma: Internal

